## Before the Federal Communications Commission Washington, DC 20554

In the Matter of	)	
	)	
Advanced Television Systems	)	MB Docket No. 87-268
and Their Impact upon the	)	
Existing Television Broadcast	)	
Service.	)	

Further Comments and Engineering Statement of Corridor Television LLP Licensee of KCWX, Fredericksburg, Texas

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Its Counsel

Dated: June 12, 2007

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EXHIBIT A: Engineering Statement of Cohen, Dippel And Everist, P.C.

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## Further Comments and Engineering Statement of Corridor Television LLP Licensee of KCWX, Fredericksburg, Texas

Corridor Television LLP ("Corridor"), licensee of television station KCWX, analog Channel 2, Facility Id. 24316, Fredericksburg, Texas, through its undersigned counsel, hereby files these further comments and the attached engineering statement in response to the Seventh Further Notice of Proposed Rule Making ("NPRM"), and in support hereof respectfully shows as follows:

I. The Third Periodic Review And The Engineering Statement Support The Request For A Waiver To Change The TCD Of KCWX To Channel 8.

Since the comments and replies were filed in this proceeding, the Commission has released its Third Periodic Review of the transition to digital television.<sup>1</sup> The Third Periodic Review contains additional new information that should be considered in connection with the request of Corridor to change the tentative channel designation ("TCD") of KCWX to Channel 8.

Corridor also provides the attached engineering statement of Cohen, Dippel and Everist, P.C. ("the Engineering Statement") in support of its request. Additional time was needed for

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<sup>&</sup>lt;sup>1</sup> Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, FCC 07-70 (May 18, 2007) ("Third Periodic Review").

Corridor's engineers to obtain information from the Commission and perform the engineering studies described in the Engineering Statement.

In light of the relevant new information contained in the Third Periodic review and the additional time needed to prepare the Engineering Statement, the Commission should consider these further comments and the Engineering Statement of Corridor in support of the request to change the TCD of KCWX to Channel 8.

## II. The Third Periodic Review Proposes New Rules That Partially Moot And Otherwise Minimize The Corridor Waiver Request.

Corridor requested a waiver of the 0.1 percent interference standard in order to allow Corridor to change the TCD of KCWX to Channel 8.<sup>2</sup> Corridor noted that the NPRM states that the Commission has discretion to waive the 0.1 percent interference standard where doing so would serve the public interest.<sup>3</sup> The Third Periodic Review contains new information that strongly supports the request of Corridor for a waiver of the 0.1 percent interference standard under the circumstances presented by KCWX.

A. The Third Periodic Review Stresses The Importance Of Rapid Transition To DTV Thereby Supporting The Application Of The Proposed New Interference Criteria To The Pending TCD Request Of Corridor.

The Commission notes in the Third Periodic Review that Congress has set a hard date of February 17, 2009 for all stations to convert their operations to DTV:

In early 2006, Congress enacted significant statutory changes to the DTV transition in the DTV Act. Most importantly, it set February 17, 2009, as the date certain for the end of the DTV transition, at which time all full-power television broadcast stations must cease their analog transmissions.<sup>4</sup>

Id.

<sup>&</sup>lt;sup>2</sup> Corridor Comments filed January 9, 2007 ("Corridor Comments") at 1-2.

 $<sup>^3</sup>$  Id.

<sup>&</sup>lt;sup>4</sup> Third Periodic Review at para. 6.

The Commission reasoned that the decision of Congress to amend the law governing the DTV transition requires the Commission to re-evaluate its rules and policies in order to better assist stations to meet the DTV transition deadline of February 17, 2009:

In view of the statutory change from a soft to a hard transition deadline, the Commission's focus has moved beyond simply ensuring that stations are operating in digital. Our focus is now on overseeing broadcasters' construction of their final, post-transition channel with facilities that will reach viewers in their authorized service areas by the time they must cease broadcasting in analog.<sup>5</sup>

Beyond simply encouraging compliance with the February 17, 2009 DTV transition deadline, the Commission also proposed to adopt rules and policies that would encourage the early transition to DTV operation.<sup>6</sup>

The Commission also adopted expedited processing rules for applications for new DTV facilities. As a singleton, KCWX will need to apply for authority to construct a new DTV station on its new DTV channel. This application cannot be filed until the Commission makes a final decision on the TCD for KCWX. Once this decision is made, KCWX must file its application within 45 days in order to have the benefit of the expedited processing rule.<sup>7</sup>

The timeframe is extremely short for KCWX to apply for its new DTV facility, obtain Commission authorization, order, obtain delivery of and install its new DTV equipment and commence DTV operations by the February 17, 2009 DTV transition deadline. In the event that KCWX is unable to meet this deadline, the Commission will apply proposed new, tighter rules on any extension requests under its tolling standard. The tighter standard for extensions provides a strong incentive for stations to make every effort to meet the construction deadline. As a result, KCWX is likely to spend considerable effort and resources to build its authorized

<sup>&</sup>lt;sup>5</sup> *Id.* at para. 34.

<sup>&</sup>lt;sup>6</sup> *Id.* at para. 88. These proposals included a standard of 2.0 percent for DTV to analog interference for early transitioning DTV stations: "Consistent with our transitional interference protection policies, we propose that early transitioning stations must not cause more than 2.0 percent interference to any authorized analog-only TV station." *Id.* at para. 94.

<sup>&</sup>lt;sup>8</sup> *Id.* at para. 81.

DTV facility under the rigorous time constraint imposed by the short time remaining between now and February 17, 2009.

Consistent with the new stress on complying with the February 17, 2009 DTV transition deadline, the Commission decided to propose now the interference rules that will govern post-transition DTV operations. The Commission states that announcing the post-transition interference standards now is intended to enable stations better to plan the equipment purchases and installations that stations are required to complete between now and February 17, 2009 in order to have facilities that will not simply meet the deadline but also be consistent with the rules that will be in effect after the deadline. Thus, the Commission explains:

[I]t is our understanding that knowing what those post-transition interference standards will be in advance may enable stations to anticipate future equipment needs and allow them to minimize their capital expenditures by buying equipment that can be used both now and in the future. Accordingly, we believe it is appropriate at this time to propose what those post-transition interference standards will be.<sup>9</sup>

The Commission further states that the proposed new interference criteria will apply both to post-transition applications to construct DTV facilities and to rulemaking petitions to change an assigned DTV channel:

When evaluating applications to construct post-transition facilities, we propose to use an interference protection requirement based on engineering criteria (e.g., permissible interference) rather than a geographic spacing requirement...Where authorized DTV stations wish to change their assigned DTV channel through a rulemaking petition, we also believe applying the proposed engineering criteria is appropriate. On the other hand, we continue to believe that geographic spacing requirements represent a preferred approach for evaluating a petition for rulemaking requesting a new DTV allotment.<sup>10</sup>

Thus, it is clear that were KCWX to request a change in its DTV channel from 5 to 8 after the transition, the new interference criteria would apply. This strongly indicates that the proposed interference criteria should be considered in evaluating Corridor's request to change the TCD of

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<sup>&</sup>lt;sup>9</sup> *Id.* at para. 100.

<sup>&</sup>lt;sup>10</sup> *Id.* at para. 103.

KCWX from Channel 5 to Channel 8 now, rather than requiring Corridor to accept a TCD of Channel 5 now and then file a rulemaking petition to change to Channel 8 under the standards that will be in effect on February 18, 2009.

The Third Periodic Review recognizes the significant change made by Congress in setting the February 17, 2009 DTV transition deadline, the extraordinary efforts that stations such as KCWX, a singleton, must make to prepare and file their applications, obtain expedited processing and grant, order, obtain and install equipment and commence operations in time. Because of these circumstances, the Commission decided to announce now the post-transition interference standards. Clearly, therefore, those standards should be considered in deciding the request of KCWX to operate its DTV facility on Channel 8. The public interest will be served by enabling Corridor to focus its efforts and resources on construction and operation of a station that would ultimately be authorized under the proposed new interference criteria.

## B. The Proposed New Interference Criteria Show That Corridor's Request To Operate On Channel 8 Is Consistent With The Public Interest.

The Third Periodic Review proposes, "an interference protection requirement based on engineering criteria (e.g., permissible interference) rather than a geographic spacing requirement," for new applications and rulemaking petitions to change DTV channels.<sup>11</sup> The Commission proposes to use an interference standard of 0.5 percent, which the Commission notes is stricter than the 2 percent/10 percent criteria and not as strict as the 0.1 percent standard:

Our proposed engineering criteria to evaluate all post-transition applications would limit the predicted interference that a station may cause to 0.5 percent of the protected station's service population. This proposed 0.5 percent interference standard is stricter than the 2 percent/10 percent criteria that has applied since early in the DTV transition...In addition, we note that our 0.5 percent proposal is not as strict as the 0.1 percent new interference criterion that was employed for determining interference conflicts in the channel election process.<sup>12</sup>

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<sup>&</sup>lt;sup>11</sup> *Id*.

<sup>&</sup>lt;sup>12</sup> *Id.* at paras. 104 to 105.

Thus, the 0.5 percent standard is intended to strike a reasonable balance. Given that this standard will be applied to post-transition requests to change DTV channels, the 0.5 percent standard should be given significant weight in considering requests to waive the 0.1 percent standard in connection with the TCD selection process, especially in the case of a singleton such as KCWX that must construct a new DTV facility on a newly assigned channel between now and February 17, 2009.

Of particular note is that the *proposed* 0.5 percent standard is based upon the *current* processing methodology for DTV and utilizes commonly accepted conventions for rounding numbers. The Commission notes that under the processing guidelines for DTV in effect since 1998 and the conventions commonly used for rounding numbers, a figure of 0.5 would be rounded to 0.0. Thus, the Commission explains:

Our proposed requirement that interference from a DTV application for post-transition use not exceed 0.5 percent is the same requirement as we have used during the transition for analog TV stations protecting DTV stations. It can be viewed as a "no new interference" criteria when the amount of predicted interference is rounded to the nearest whole percent (i.e., any determination of less than 0.5 percent interference would be considered to be 0 percent, while an interference determination greater than 0.5 percent would round up to 1.0 percent.)<sup>13</sup>

The Commission notes that this rounding methodology has been in effect for DTV since at least 1998 when the Media Bureau issued a Public Notice setting forth DTV processing guidelines.<sup>14</sup> The DTV Application Processing Guidelines PN states in the section on "Rounding and calculation tolerances" that:

Determinations of compliance with the rules will be based on the Commission's implementation of the software, with the result rounded to the nearest tenth of a percent.<sup>15</sup>

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<sup>&</sup>lt;sup>13</sup> *Id.* at para. 106.

<sup>&</sup>lt;sup>14</sup> *Id.* at Notes 201 and 205 and accompanying text; "Additional Application Processing Guidelines for Digital Television (DTV)," 1998 WL 458391 at 8 (MB rel. Aug. 10, 1998) ("DTV Application Processing Guidelines PN"). <sup>15</sup> *Id.* 

As the nearest to 5 is 0 while the nearest to 6 is 10 in commonly used rounding conventions, the Commission's processing guideline equates 0.5 with 0.0 percent interference.

The Commission explains that it is reasonable to use the proposed 0.5 percent standard in combination with the rounding methodology in which 0.5 percent is rounded to 0 because interference prediction does not lend itself to predicting levels of interference at magnitudes in tenths of a percent. The Commission specifically states that rounding the interference level to the nearest percent is justified given the limitations on the accuracy of interference prediction models:

This level of rounding is more reflective of the accuracy of the interference prediction model than the 0.1 percent criterion.<sup>16</sup>

The reasoning of the Commission strongly suggests the 0.1 percent interference criteria may be unrealistic and unreliable because interference prediction models cannot be relied upon to make accurate predictions down to tenths of a percent. Thus, in considering Corridor's request for a waiver of the 1.0 percent standard in order to use Channel 8 as the TCD for KCWX, the Commission should apply the tentative conclusion in the Third Periodic Review that an interference standard of 0.5 percent is more reflective of the accuracy of currently available interference protection models.

In the event that the Commission were to apply the tentative conclusions in the Third Periodic Review to the pending waiver request of Corridor, the Commission would conclude that the waiver request is moot as to adjacent Channel 9 and quite *de minimus* as to Channel 7. As to Channel 9, the attached Engineering Statement shows that the predicted interference is 0.55 percent. According to the Commission's rounding methodology, 0.55 percent would round to 0 since the Commission rounds 5 down and 6 up, as is commonly the case. The Commission

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<sup>&</sup>lt;sup>16</sup> Third Periodic Review, para. 106.

therefore should find that, given the limits of the current interference prediction model, a prediction of 0.55 percent interference fails to rise to a level that surmounts the margin for error in making interference predictions. As a result, no reliable prediction of interference to Channel 9 can be made with regard to Corridor's request for Channel 8 as its TCD. The Commission should treat the predicted interference to Channel 9 as 0. Since 0 is less than 0.1, the request of Corridor for a TCD of Channel 8 should be treated as compliant with the 0.1 percent standard in the NPRM and the waiver request should be treated as moot as to Channel 9.

As to Channel 7, the attached Engineering Statement shows a predicted level of interference of 0.76 percent. According to the Commission's rounding methodology, this would round to 1.0 percent interference. However, the reasoning behind the rounding methodology shows that the resulting waiver request is quite de minimus. As noted, the Commission explains that it tentatively concludes that it should use an interference standard of 0.5 percent due to the limits of the current prediction model. The reasoning of the Commission indicates that the predicted level of interference of 0.76 when compared to the 0.1 percent interference standard is very close to the margin for error. Thus, Corridor's request for a waiver is quite de minimus in nature since the predicted level of interference of 0.76 percent barely exceeds the margin for error in making interference predictions. Due to the limited accuracy of the prediction model, it is quite possible that notwithstanding the prediction of 0.76 percent interference to Channel 7, in reality viewers of Channel 7 will suffer less than the predicted level of interference or no interference of any practical significance. In fact, the more closely we examine the results of the interference study, the more it appears that no significant interference to Channel 7 is likely to occur as a result of the assignment of Channel 8 to KCWX.

## III. The Engineering Statement Shows that a Grant of the Requested Waiver Would Be in the Public Interest.

The Commission explains that the Commission determined to use engineering criteria rather than distance separation for interference prediction for purposes of channel selection because engineering criteria better reflect the actual conditions of each station's particular service area:

We believe this will allow for a more flexible design of proposed stations while offering a high level of protection to existing authorized service. By their nature, geographic spacing requirements do not take into account intervening terrain features (or the lack of such features). Stations separated by the same distance may create significant mutual interference in areas of flat terrain while no interference is predicted in circumstances where intervening terrain limits the signals from either or both stations.<sup>17</sup>

Thus, the Third Periodic Review strongly suggests that the particular characteristics of each station's service area should be taken into account. The findings and recommendations of Cohen, Dippel and Everist, P.C. that the viewers of KCWX would be better served by a TCD of Channel 8 should be given significant weight based upon their detailed study of the particular conditions impacting KCWX as well as the first adjacent channel stations.

The attached Engineering Statement shows that the viewers of KCWX would be better served by assignment of DTV Channel 8 to KCWX, rather than Channel 5. Operations on low VHF channels such as Channel 5 are generally considered undesirable within the industry, according to the Engineering Statement. Likewise, operation on a UHF channel would not be suitable for KCWX given its particular service area characteristics, according to the Engineering Statement.

The Engineering Statement further shows that the predicted interference occurs close to the KCWX transmitter. <sup>18</sup> As a result, the engineers conclude that reducing the transmitting

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<sup>&</sup>lt;sup>17</sup> *Id.* at para. 103.

<sup>&</sup>lt;sup>18</sup> Engineering Statement at 4.

power of KCWX would not eliminate the interference. The request for a waiver is reasonable because the proponent does not have a readily available alternative such as reducing power.

The benefits to the viewers of KCWX from operation of the station on Channel 8 rather than Channel 5 or a UHF channel can be achieved with limited adverse impact upon the viewers of Channels 7 and 9, according to the Engineering Statement. The Engineering Statement generally agrees with the Commission's finding of 0.76 percent predicted interference to adjacent channel 7 (KTBC-DT) and 0.55 percent predicted interference to adjacent channel 9 (KLRN-DT). The Engineering Statement also provides additional detail regarding the specific areas of predicted interference.

The Engineering Statement notes that, "much of the predicted interference caused by the proposed post-transition operation of KCWX-DT to KTBC-DT and KLRN-DT is located outside of each station's DMA." Interference that occurs outside the DMA of a station also is distant from its transmitter. The Engineering Statement provides a supplemental study that models predicted interference based on a reasonable assumption that an over-the-air viewer located at distance from a desired signal is likely to use a higher gain antenna.

Viewers who desire to receive television signals over-the-air rather than via cable television or satellite commonly employ widely available, externally mounted antennas. Both the NAB and the Commission have recognized this common practice. The NAB has indicated that over-the-air viewers in rural areas typically use externally mounted antennas:

The NAB and [its engineering firm] further state that it is because rooftop antennas are so much better than indoor antennas that households have long used rooftop antennas to achieve reliable over-the-air reception, particularly where the households are at some distance from the TV transmitting tower. The NAB stresses that rural households often

rely on small towers - with over-the-air antennas considerably higher than rooftop level - to receive a strong signal from stations several dozen miles away. <sup>19</sup>

Consistent with the NAB's position, the Commission has found that external antennas are widely available to viewers in rural areas:

The record on the performance capabilities and availability of antenna receiving equipment indicates that there are a very large number of options for antennas that meet or exceed the gain and front-to-back ratio capabilities assumed in the planning factors. In particular, we observe that antennas that provide gain of 7 dB, 11dB, and 14 dB or more and front-to-back ratios of 19 dB, 17 dB, and 20 dB in the low VHF, high VHF, and UHF bands respectively are readily available in a variety of models and at a range of affordable prices, i.e., from about \$35 to about \$100. These capabilities compare favorably to the respective planning factors gain values of 4 dB, 6 dB, and 10 dB and front-to-back ratios of 10 dB, 12 dB, and 14 dB by a fair margin (these performance levels exceed the gain standards by 3 dB, 5 dB, and 4 dB and the front-to-back ratio standards by 9 dB, 5 dB, and 6 dB, respectively). In cases where additional margin in the received signal-to-noise ratio is needed, there are numerous models of low-noise amplifiers available. Similarly, we observe that there is a wide variety of models of antenna rotor devices available, including units with remote controls, at reasonable prices. As the Network Affiliates point out, the Commission has long recommended that households in outlying or difficult reception areas use equipment and mounting locations appropriate to their needs. This equipment can include separate UHF and VHF antennas, which generally provide better performance than a combination UHF/VHF antenna at little or no additional cost. Our own review of the websites of various TV receive system retailers also indicates that products with lower performance levels and prices that can meet many households digital TV receive system needs are readily available. Thus, it is clear that the availability of digital TV receive systems that meet or exceed the antenna performance planning factors is not a constraint on viewers ability to receive signals under the current noise-limited DTV field strength signal intensity standards.<sup>20</sup>

Consistent with the conclusions of the NAB and the Commission, the attached Engineering Statement suggests that externally mounted antennas are commonly used by consumers and points out that such antennas typically have a higher gain and a higher front to back ratio than the base quality antenna assumed in the Longley-Rice model. The Engineering Statement suggests, based on common industry knowledge, that it is reasonable to assume that

<sup>&</sup>lt;sup>19</sup> Report To Congress on the Satellite Home Viewer Extension And Reauthorization Act Of 2004, Study Of Digital Television Field Strength Standards And Testing Procedures, ET Docket No. 05-182, FCC 05-199, released Dec. 9, 2005 at para. 38.

<sup>&</sup>lt;sup>20</sup> *Id.* at para. 41.

widely used external antennas have a gain of 9 dB and a front to back ratio of 18 dB. The Longley-Rice model assumes a receive antenna with a gain of 6 dB and a front to back ratio of 12 dB, according to the Engineering Statement.

The Engineering Statement indicates that a relatively minor and non-controversial change in the assumptions used in the model to a receive antenna with a 9 dB gain and a front to back ratio of 18 dB lowers the predicted interference to 0.33 percent to channel 7 (KTBC-DT) and 0.15 percent to Channel 9 (KLRN-DT). As a result, the predicted interference to channel 7 (KTBC-DT) is less than the 0.5 percent interference criteria proposed in the Third Periodic Review and the predicted interference to channel 9 (KLRN-DT) effectively complies with the 0.1 percent interference standard in the NPRM.

The small levels of predicted interference using a reasonable assumption regarding the receive antenna likely used by a viewer who chooses to rely upon over-the-air reception suggests that factors besides the operation of KCWX on Channel 8 are likely to determine whether a viewer can receive the signals of Channels 7 and 9 over the air. Factors beyond the control of either station, such as terrain or man made obstructions, are likely to play a more significant role for viewers who are unable to receive a desired signal over-the-air despite the use of a widely available, higher gain antenna.

The limitations of the Longley-Rice predictive model are recognized by the Commission in the Third Periodic Review as part of the reasoning for the proposal to adopt a 0.5 percent interference standard for post-transition rule making requests to change DTV channels, as noted above. Consistent with this reasoning, the Engineering Statement demonstrates that the waiver request is *de minimus* or within the margin for error of the predictive model and therefore should be granted. Under the standard Longley-Rice model, the predicted interference to Channel 9

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<sup>&</sup>lt;sup>21</sup> Third Periodic Review, para. 106.

(KLRN-DT) at 0.55 percent is within the margin for error of the predictive model. Consistent with the Commission's proposed 0.5 percent standard and rounding methodology, the predicted interference amounts to 0 and should not even require a waiver. Moreover, the additional studies based on a model that assumes the use of a widely used higher gain antenna predicts interference of only 0.15% which complies with the NPRM using the accepted rounding methodology.

Under the standard Longley-Rice model the predicted interference to Channel 7 (KTBC-DT) is 0.76 percent which is greater than the proposed 0.5 percent standard. However, the waiver is *de minimus* as the excess predicted interference of 0.26 percent is within the margin for error of the theoretical interference prediction model. Moreover, the alterative study using an assumption of a higher gain receive antenna predicts an interference level of 0.33 percent, less than the proposed 0.5 percent standard.

We can assume, therefore, that in the event that KCWX waited until after the transition and filed a petition for a rulemaking to change its DTV Channel from 5 to 8, that KCWX would be able to show no need for a waiver as to Channel 9, a need for only a *de minimus* waiver of only 0.26 percent as to Channel 7 under the standard Longley-Rice model and compliance with the proposed 0.5 percent standard using a reasonable alternative assumption for a predictive model that would be accepted by the Commission. Given the short time frame to construct KCWX-DT, the Commission should not require Corridor to pursue such a time-consuming and costly two step process and should grant Corridor a TCD of Channel 8 now so that Corridor can devote its resource to construction of KCWX-DT on Channel 8.

## IV. Conclusion.

Wherefore, for the foregoing reasons, Corridor respectfully requests that its waiver request be granted and the TCD for KCWX, Fredericksburg, Texas be changed to Channel 8.

Respectfully submitted,

**Corridor Television LLP** 

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Its Counsel

Dated: June 12, 2007

## EXHIBIT A

## ENGINEERING STATEMENT OF COHEN, DIPPEL AND EVERIST, P.C.

ENGINEERING STATEMENT
IN SUPPORT OF COMMENTS FILED
ON BEHALF OF
CORRIDOR TELEVISION, L.L.P.
KCWX-DT, FREDERICKSBURG, TEXAS
CHANNEL 8 39.669 KW DA ERP 413 METERS HAAT
JUNE 2007

COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.

## COHEN, DIPPELL AND EVERIST, P. C.

City of Washington	)
	) ss
District of Columbia	)

Ryan M. Felmlee, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer of the Pennsylvania State University and is a staff engineer at Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

> Ryan M. Felmlee District of Columbia

Subscribed and sworn to before me this At day of Ar

Notary Public Tras Zws My Commission Expires:

### COHEN, DIPPELL AND EVERIST, P. C.

City of Washington	)
	) ss
District of Columbia	)

Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

> Donald G. Everist District of Columbia Professional Engineer

Registration No. 5714

My Commission Expires:

### Introduction

This engineering statement has been prepared on behalf of Corridor Television L.L.P. ("KCWX"), licensee of television station KCWX(TV), Fredericksburg, Texas, in support of comments filed in the matter of *Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, Seventh Further Notice of Proposed Rule Making Proposed DTV Table of Allotments*, MB Docket No. 87-268 on January 9, 2007 ("Seventh Further Notice").

## **Technical Analysis**

KCWX(TV) is licensed for analog operation on channel 2(+) with 100 kW nondirectional ERP at 413 meters height above average terrain ("HAAT"). In the Seventh Further Notice, station KCWX(TV) was assigned post-transition operation on channel 5 with 10.2 kW directional ERP at 413 meters HAAT. However, it is well known within the industry that low-band VHF DTV operation is susceptible to interference from other signals during certain times of the year. In addition, the reception of low-band VHF DTV is susceptible to impulse noise and therefore undesirable for post-transition DTV operation.

In paragraph 19 of the Sixth Further Notice of Proposed Rule Making, MB Docket No. 87-268, dated July 25, 1996, the Commission states:

"We observe that signals in the lower VHF spectrum are more susceptible to degradation due to man-made and atmospheric noise, while those in the upper UHF spectrum suffer greater propagation losses and are more susceptible to multipath and shadowing effects."

In paragraph 19 of the Order, the Commission even considered a revised spectrum under which all future digital TV service would be located which excluded the lower VHF band (channels 2-6).

In addition to the noise and reception issues in the lower VHF band, the UHF band also would not be suitable for post-transition operation of KCWX-DT. Much of the population currently served by KCWX(TV) is located in the outlying areas near the edge of its Grade B contour and service to these households may be jeopardized by propagation losses if KCWX-DT was to be assigned a post-transition channel in the UHF band.

Therefore, based on the interference concerns for the lower VHF band and the propagation characteristics in the UHF band, KCWX hereby requests a waiver to change its post-transition DTV allotment as specified in the Seventh Further Notice of Proposed Rule Making Proposed DTV Table of Allotments. KCWX requests replicated analog post-transition DTV facilities of 39.669 kW directional ERP (See Table I) on channel 8 at 413 meters HAAT.

## **DTV** Analysis

To further support that the requested KCWX-DT post-transition facilities will have minimal impact, an interference study (see Table II) has been performed which takes into consideration and includes the proposed KCWX-DT directional facilities and all station certifications as designated in the Seventh Further Notice. The Longley-Rice study of predicted interference caused by the proposed directional KCWX-DT channel 8 post-transition facilities requested herein has been performed using a version of the Longley-Rice program as described in OET Bulletin No. 69 (February 6, 2004) and the Public Notice, "Additional Application

Processing Guidelines for Digital Television (DTV)" (August 1998). The FCC's FORTRAN-77 code was modified only to the extent necessary (primarily input/output handling) for the program to run on a Windows98/Intel platform. Comparison of service/interference areas and populations indicates that this model closely matches the FCC's evaluation program. Best efforts have been made to use data and calculations identical to the FCC's program. Any slight differences are attributable to compiler, operating system and/or processor characteristics. The effect of any variance in calculated population values versus the FCC's program is minimized when differencing a given model's results, such as calculating new interference as total interference less baseline interference. Any variance effect is further reduced when using ratios of calculated population values such as measuring the incremental population affected as a percent of the total population served. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of approximately 4 km<sup>2</sup> terrain data sampled approximately every 1.0 km at one degree azimuth intervals with 2000 census centroids based on the information contained in the FCC engineering database released May 17, 2007 representing all post-transition DTV operations in Appendix B of the Seventh Further Notice.

## Interference

The Longley-Rice study predicts the proposed channel 8 KCWX-DT facilities will cause approximately 0.76% interference to the post-transition channel 7 operation of KTBC-DT, Austin, Texas and approximately 0.55% interference to the post-transition channel 9 operation of KLRN-DT, San Antonio, Texas. A map displaying the predicted interference to the post-transition

operation of KTBC-DT relative to the Austin designated market area ("DMA") is included a Exhibit E-2 and the interference analysis of the proposed channel 8 KCWX-DT operation relative to KTBC-DT is included as Exhibit E-4. A map displaying the predicted interference to the post-transition operation of KLRN-DT relative to the San Antonio DMA is included as Exhibit E-3 and the interference analysis of the proposed channel 8 KCWX-DT operation relative to KLRN-DT is included as Exhibit E-5. Exhibits E-2 and E-3 demonstrate that much of the predicted interference caused by the proposed post-transition operation of KCWX-DT to KTBC-DT and KLRN-DT is located outside of each station's DMA. In addition, much of the KCWX-DT predicted interference to KTBC-DT and KLRN-DT is located near the KCWX-DT transmitting facilities where the KCWX-DT channel 8 field strength would be at maximum. Therefore, a reduction of the proposed KCWX-DT transmitting power would not resolve this interference due to its proximity to the KCWX-DT transmitting facilities and the respective desired-to-undesired ratio ("D/U") to each of the 1st adjacent channel stations.

In the *Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, the Commission proposed that a station may cause interference to 0.5% of the protected station's service population. The Commission has deemed that 0.5% interference would be deemed 0% for post-transition DTV operation. Therefore, the proposed post-transition operation of KCWX-DT on channel 8 would be considered to cause 0% interference to the post-transition operation of KLRN-DT. In addition, the channel 8 KCWX-DT post-transition operation would be predicted to cause just 0.26% above the 0.5% interference criteria to KTBC-DT, Austin, Texas.

## Satellite Home Viewer Extension and Reauthorization Act and High Gain Antennas

Although KCWX has not performed a field study, it is generally true for households that continue to receive off-the-air signals that higher gain antennas are widely used by over-the-air viewers in rural areas as noted by the Commission in ET Docket No. 05-182.<sup>1</sup> As the Commission is aware, the standard Longley-Rice methodology assumes a receive antenna with a 6 dB gain<sup>2</sup> and a front to back ratio of 12 dB<sup>3</sup>.

Additional engineering studies also were performed to model the effects of operation of KCWX-DT on Channel 8 for viewers if higher gain receive antennas are employed. Therefore, a supplemental study based on receive antennas with a gain of 9 dB and a front to back ratio of 18 dB have been performed and attached as Exhibit E-6. These higher values for receive antennas employed for the supplemental study have been derived from common commercially available rooftop antennas and are documented in Exhibit E-7.

As shown on Exhibit E-6, the interference analysis results assuming the use of the higher gain receive antenna is that KCWX-DT operating on Channel 8 would cause only 0.33% predicted interference to Channel 7, KTBC-DT, and only 0.15% predicted interference to Channel 9, KLRN-DT.

<sup>&</sup>lt;sup>1</sup>Report to Congress on the Satellite Home Viewer Extension And Reauthorization Act of 2004, Study of Digital Television Field Strength Standards And Testing Procedures, ET Docket No. 05-182, FCC 05-199, released December 9, 2005 at para. 38.

<sup>&</sup>lt;sup>2</sup>OET Bulletin No. 69, Table 4, Parameters Used in Implementation of the Longley-Rice Fortran Code

<sup>&</sup>lt;sup>3</sup>OET Bulletin No. 69, Table 6, Front-to-Back Ratios Assumed for Receiving Antennas

### Conclusion

In the Seventh Further Notice, the Commission's Longley-Rice analysis predicted that the post-transition operation of KTBC-DT, Austin, TX will receive 0% total interference and post-transition operation of KLRN-DT will receive 0.4% total interference. If KCWX-DT were granted post-transition operation with replicating parameters, the net interference to KTBC-DT is predicted to be 0.76% and 0.95% to KLRN-DT. In the Proposed DTV Table of Allotments, there are numerous DTV stations that are predicted to receive amounts of interference to their post-transition operation much larger than those created by the proposed KCWX-DT. For example, station KTSC-DT, Pueblo, Colorado is predicted to receive 56.5% total interference, station KSMS-DT, Monterey, California is predicted to receive 42.1% total interference and station WTVE-DT, Reading, Pennsylvania is predicted to receive 35.3% total interference. In addition, the average amount of total interference received by a post-transition DTV station in the Proposed DTV Table of Allotments is 1.7% with a standard deviation of 4.5. Relative to the average total interference and also the large amounts mentioned above, the predicted amounts of total interference caused by the KCWX-DT operation are minimal by comparison. In addition, upon assumption that high gain roof-top antennas are utilized in the rural areas where the interference caused by the channel 8 operation of KCWX-DT is predicted to occur, the total interference caused by KCWX-DT would be less than 0.5% for each case.

Based on these conclusions, this analysis demonstrates that the proposed channel 8 post-transition operation of KCWX-DT based on replication parameters would be in and serve public interest.

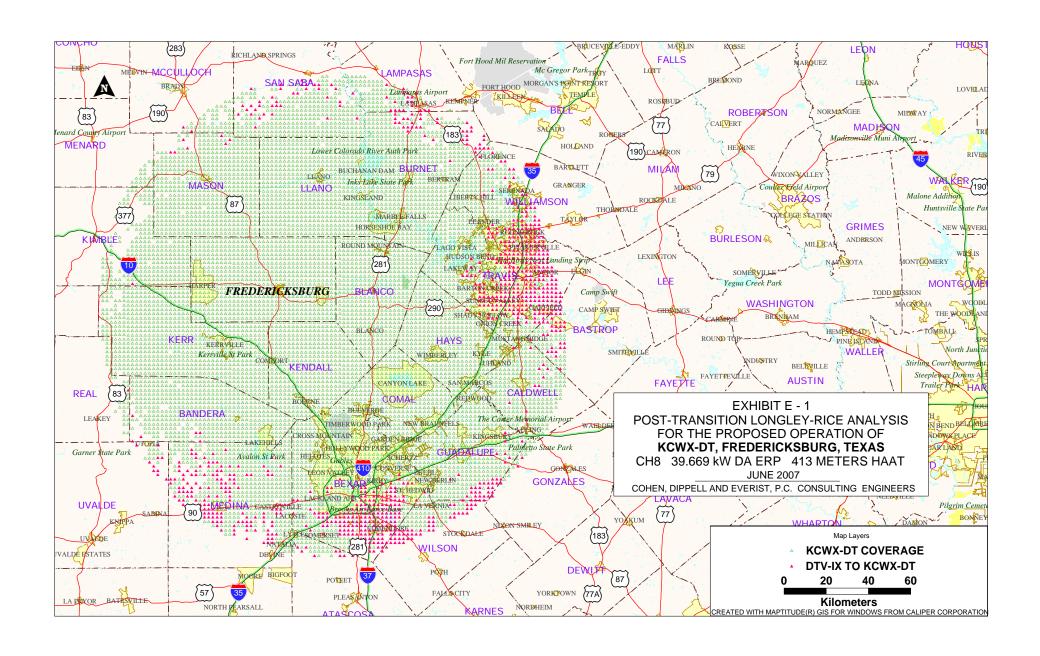
## TABLE I REPLICATION AZIMUTH PATTERN VALUES FOR THE PROPOSED DTV ALLOTMENT OF KCXW-DT, FREDERICKSBURG, TEXAS Ch 8 39.669 KW DA ERP 413 METERS HAAT JUNE 2007

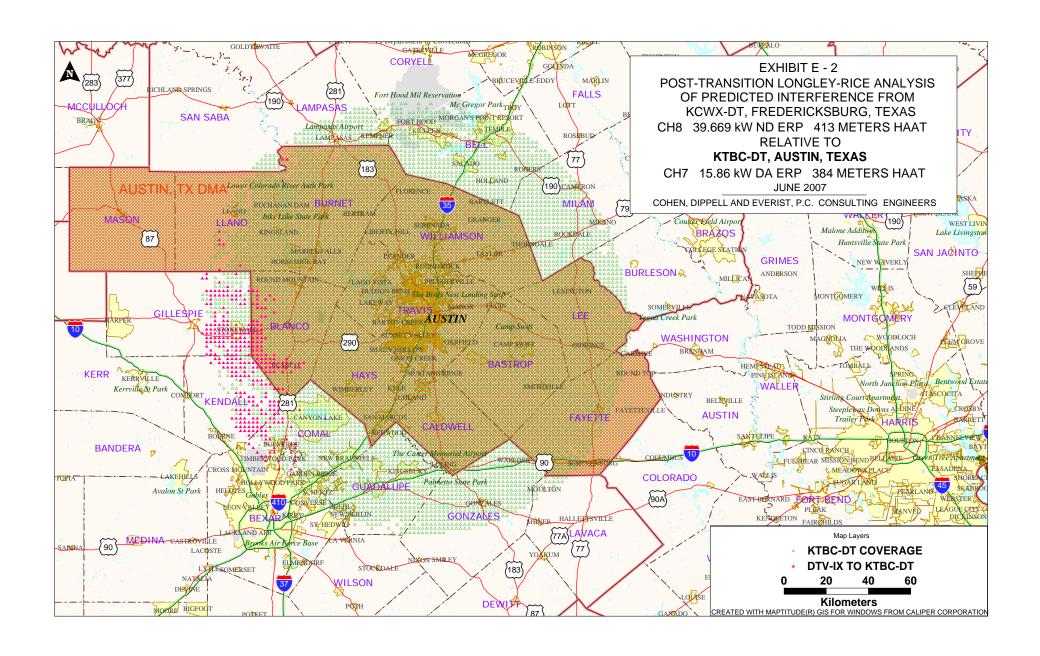
Relative

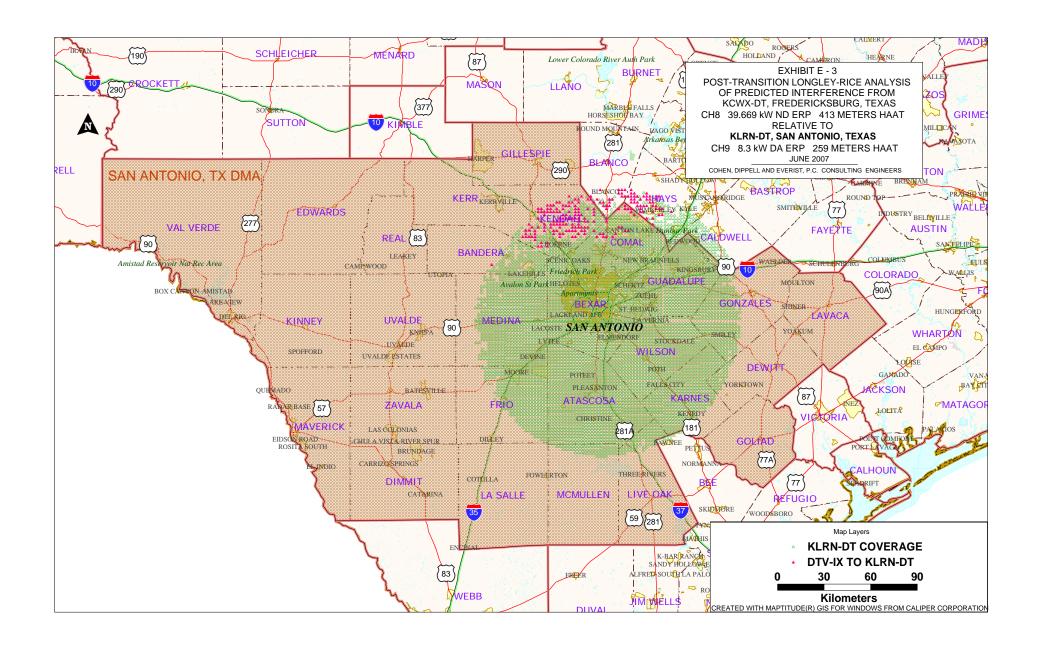
A:4l-	Field
Azimuth	Field
0	0.992
10	0.99
20	0.989
30	0.99
40	0.991
50	0.993
60	0.993
70	0.994
80	0.995
90	0.996
100	0.996
110	0.996
120	0.996
130	0.996
140	0.997
150	0.999
160	1
170	0.999
180	0.997
190	0.997
200	0.997
210	0.997
220	0.997
230	0.995
240	0.993
250	0.992
260	0.993
270	0.996
280	0.992
290	0.998
300	1
310	0.996
320	0.991
330	0.99
340	0.989
350	0.99

## TABLE II CONTOUR REPLICATION FOR THE PROPOSED OPERATION OF KCWX-DT, FREDERICKSBURG, TEXAS CH8 39.669 KW DA METERS HAAT JUNE 2007

		Channel 2 NTSC		Cha	Channel 8 DTV		
			Distance to		Distance to		
AZ	HAAT	ERP	F(50,50) 47 dBu	ERP	F(50,90) 36 dBu		
(degrees)	(m)	(kW)	(km)	(kW)	(km)		
0	454.9	100	116.3	39.037	116.2		
10	470.5	100	117.7	38.880	117.3		
20	455.5	100	116.4	38.801	116.1		
30	443.7	100	115.3	38.880	115.1		
40	441.4	100	115.1	38.958	114.9		
50	422.5	100	113.4	39.116	113.2		
60	400.7	100	111.4	39.116	111.3		
70	368.8	100	108.7	39.194	108.7		
80	386.4	100	110.2	39.273	110.1		
90	419.9	100	113.1	39.352	113.0		
100	435.1	100	114.5	39.352	114.4		
110	448.9	100	115.8	39.352	115.7		
120	433.2	100	114.3	39.352	114.2		
130	414.8	100	112.7	39.352	112.6		
140	408.9	100	112.2	39.431	112.1		
150	390.2	100	110.5	39.590	110.5		
160	392.4	100	110.7	39.669	110.7		
170	399.3	100	111.3	39.590	111.3		
180	385.5	100	110.1	39.431	110.1		
190	387.2	100	110.3	39.431	110.2		
200	386.5	100	110.2	39.431	110.1		
210	398.4	100	111.2	39.431	111.2		
220	395.7	100	111.0	39.431	110.9		
230	381.6	100	109.8	39.273	109.7		
240	384.5	100	110.0	39.116	109.9		
250	356.8	100	107.8	39.037	107.7		
260	337.1	100	106.4	39.116	106.2		
270	353.4	100	107.5	39.352	107.5		
280	379.1	100	109.6	39.037	109.5		
290	390.1	100	110.5	39.510	110.5		
300	408.0	100	112.1	39.669	112.0		
310	425.5	100	113.6	39.352	113.5		
320	432.9	100	114.3	38.958	114.1		
330	436.3	100	114.6	38.880	114.4		
340	444.3	100	115.3	38.801	115.1		
350	449.2	100	115.8	38.880	115.6		







# EXHIBIT E-4 KTBC-DT LONGLEY-RICE ANALYSIS FROM THE PROPOSED OPERATION OF KCWX-DT, FREDERICKSBURG, TEXAS CH8 39.669 KW DA 413 METERS HAAT JUNE 2007

Channel Call City/State Application Ref. No.

7 KTBC AUSTIN TX BDTV -35649BDTV

Stations Potentially Affecting This Station

Chan Call City/State Dist(km) Status Application Ref. No.

7 KLTV TYLER TX 347.8 CP MOD BMPCDT -20000501ADS

8 KCWX FREDERICKSBURG TX 80.8 PROPOSED

Results for: 7A TX AUSTIN BDTV 35649BDTV CP

HAAT 384.0 m, ATV ERP 15.9 kW

ON AREA (sq km)
32588.9
31180.5
0.0
12.0
12.0
12.0

Potential Interfering Stations Included in above Scenario 1

7A TX TYLER BMPCDT-20000501ADS CP 7A TX AUSTIN BDTV-35649BDTV CP

After Analysis

Results for: 7A TX AUSTIN BDTV 35649BDTV CP

HAAT 384.0 m, ATV ERP 15.9 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1889069	32588.9
not affected by terrain losses	1831547	31180.5
lost to NTSC IX	0	0.0
lost to additional IX by ATV	14055	1348.2
lost to ATV IX only	14055	1348.2
lost to all IX	14055	1348.2
New interference	0.76	

Potential Interfering Stations Included in above Scenario 1

7A TX TYLER BMPCDT-20000501ADS CP 7A TX AUSTIN BDTV-35649BDTV CP

8A TX FREDERICKSBURG PROPOSED

# EXHIBIT E-5 KLRN-DT LONGLEY-RICE ANALYSIS FROM THE PROPOSED OPERATION OF KCWX-DT, FREDERICKSBURG, TEXAS CH8 39.669 KW DA 413 METERS HAAT JUNE 2007

Channel	Call	City/State	Application Ref. No.
9	KLRN	SAN ANTONIO TX	BLEDT-20030430ABV

## Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
8	KIII	CORPUS CHRISTI TX	199.6	CP	BPCDT -20040107AMR
8	KCWX	FREDERICKSBURG TX	93.3		Proposed
8	KGNS-TV	LAREDO TX	224.0	CP	BPCDT-19991026ABK
9	KFWD	FORT WORTH TX	385.8	LIC	BLCDT-20020509AAQ
9	KTRE	LUFKIN TX	412.5	CPMOD	BMPCDT-20000501ADE
9	KCEN-TV	TEMPLE TX	242.1	LIC	BLCDT -20021010AAB
10	KZTV	CORPUS CHRISTI TX	185.7	CP	BDTV -33079BDTV

## Before Analysis

Results for:	9A TX	SAN ANT	ONIO	BLEDT	20030430ABV	LIC
TT 1 1 TT 0		A COLL EDD	0.01777			

ПΛΛΤ	250 0 m	ATV ERP	8 3 1-W/
паат	2.39.0 III.	AIVERE	0.3 K W

	POPULATION	AREA (sq km)
within Noise Limited Contour	1813415	23230.4
not affected by terrain losses	1794309	22167.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	6282	523.6
lost to ATV IX only	6282	523.6
lost to all IX	6282	523.6

## Potential Interferring Stations Included in above Scenario

9A TX TEMPLE BLCDT-20021010AAB LIC 9A TX SAN ANTONIO BLEDT-20030430ABV LIC

## After Analysis

Results for: 9A TX SAN ANTONIO	BLEDT	20030430ABV LIC
HAAT 2590 m ATV ERP 83kW		

	POPULATION	AREA (sq km)
within Noise Limited Contour	1813415	23230.4
not affected by terrain losses	1794309	22167.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	16118	1199.1
lost to ATV IX only	16118	1199.1
lost to all IX	16118	1199.1
New interference	0.55	

Potential Interferring Stations In	cluded in above Scenario	1
9A TX TEMPLE	BLCDT-20021010AAB	LIC
9A TX SAN ANTONIO	BLEDT-20030430ABV	LIC

8A TX FREDERICKSBURG PROPOSED

# EXHIBIT E-6 LONGLEY-RICE ANALYSIS WITH MODIFIED ANTENNA RATIOS FROM THE PROPOSED OPERATION OF KCWX-DT, FREDERICKSBURG, TEXAS CH8 39.669 KW DA 413 METERS HAAT JUNE 2007

2000 Census data selected

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 06-07-2007 Time: 17:11:23

Record Selected for Analysis

KCWX OTHER -RMF2499 FREDERICKSBURG TX US

Channel 8 ERP 39.669 kW  $\,$  HAAT 470.9 m  $\,$  RCAMSL 00913 m  $\,$ 

Latitude 30 -8 -13 Longitude 98 -36-35

Status USR Zone 3 Border

Last update Cutoff date Docket

Comments Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth	ERP	HAAT	36.0 dBu F(50,90)
(Deg)	(kW)	( m )	(km)
0.0	39.037	454.9	116.3
45.0	39.037	430.4	114.1
90.0	39.352	420.6	113.2
135.0	39.392	420.5	113.2
180.0	39.431	385.5	110.1
225.0	39.352	384.6	110.0
270.0	39.352	352.7	107.5
315.0	39.155	430.3	114.1

Avg: 409.9

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is within the Mexican coordination distance

Distance to border = 229.1km

Proposed station is OK toward AM broadcast stations

\*

Start of Interference Analysis

Proposed Station

Channel Call City/State ARN 8 FREDERICKSBURG TX OTHER KCWX RMF2499

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Applicati	on Ref. No.
7	KTBC	AUSTIN TX	80.8	CP	BDTV	-35649BDTV
8	KIII	CORPUS CHRISTI TX	292.5	CP	BPCDT	-20040107AMR
8	WFAA-TV	DALLAS TX	313.1	CP	BDTV	-72054BDTV
8	KUHT	HOUSTON TX	306.8	CP	BDTV	-69269BDTV
8	KGNS-TV	LAREDO TX	292.5	CP	BPCDT	-19991026ABK
9	KLRN	SAN ANTONIO TX	93.3	LIC	BLEDT	-20030430ABV
9	KCEN-TV	TEMPLE TX	183.2	LIC	BLCDT	-20021010AAB

Analysis of Interference to Affected Station 1

Analysis of current record

Channel Call City/State Application Ref. No. 7 KTBC AUSTIN TX BDTV -35649BDTV

Stations Potentially Affecting This Station

Call City/State Dist(km) Status Application Ref. No. Chan 347.8 CP MOD BMPCDT 80.8 USR OTHER 7 KLTV TYLER TX -20000501ADS 8 KCWX FREDERICKSBURG TX -RMF2499

Total scenarios =

Result key:

1 1 Affected station 1 Scenario

Before Analysis

Results for: 7A TX AUSTIN BDTV 35649BDTV CP

HAAT 384.0 m, ATV ERP 15.9 kW

POPULATION AREA (sq km) within Noise Limited Contour 1889069 32588.9 not affected by terrain losses 1831547 31180.5 lost to NTSC IX 0 0.0 lost to additional IX by ATV 0 0.0 lost to ATV IX only 0 0.0 lost to all IX 0 0.0

Potential Interferring Stations Included in above Scenario 1

7A TX AUSTIN BDTV 35649BDTV

After Analysis

Results for: 7A TX AUSTIN BDTV 35649BDTV CP

HAAT 384.0 m, ATV ERP 15.9 kW

POPULATION AREA (sq km) 32588.9 within Noise Limited Contour 1889069 not affected by terrain losses 31180.5 1831547 lost to NTSC IX 0 0.0 lost to additional IX by ATV 6081 806.5 lost to ATV IX only 806.5 6081 lost to all IX 6081 806.5 New interference 0.33

Potential Interferring Stations Included in above Scenario

7A TX AUSTIN BDTV 35649BDTV CP 8A TX FREDERICKSBURG OTHER RMF2499 **TISR** 

The following station failed the de minimis interference criteria.

8D TX FREDERICKSBURG OTHER RMF2499 39.67 kW HAAT 470.9 m RCAMSL 913.0 m Antenna CDB 0000000001148

Due to interference to the following station and scenario: BDTV 7D TX AUSTIN 35649BDTV

15.86 kW HAAT ERP 384.0 m RCAMSL 603.0 m

Antenna CDB 0000000074653

Percent new DTV interference without proposal: 0.00 BDTV 35649BDTV Percent new DTV interference with proposal: 0.33 BDTV 35649BDTV

Analysis of Interference to Affected Station

Analysis of current record

Channel Call City/State Application Ref. No. 8 BPCDT -20040107AMR KIII CORPUS CHRISTI TX

Stations Potentially Affecting This Station

Chan Call City/State Dist(km) Status Application Ref. No. 8 KCWX FREDERICKSBURG TX 292.5 USR OTHER -RMF2499 8 KUHT HOUSTON TX 296.0 CP BDTV -69269BDTV 8 KGNS-TV LAREDO TX 203.1 CP BPCDT -19991026ABK 9 KLRN SAN ANTONIO TX 199.6 LIC BLEDT -20030430ABV Proposal causes no interference

Analysis of Interference to Affected Station

Analysis of current record

Call City/State WFAA-TV DALLAS TX Channel Application Ref. No. 8 BDTV -72054BDTV

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	on Ref. No.
7	KLTV	TYLER TX	164.8	CP MOD	BMPCDT	-20000501ADS
8	KCWX	FREDERICKSBURG TX	313.1	USR	OTHER	-RMF2499
8	KUHT	HOUSTON TX	363.2	CP	BDTV	-69269BDTV
9	KFWD	FORT WORTH TX	1.0	LIC	BLCDT	-20020509AAQ
9	KCEN-TV	TEMPLE TX	147.6	LIC	BLCDT	-20021010AAB

Total scenarios = 1

Result key:

Scenario 1 Affected station 3

Before Analysis

Results for: 8A TX DALLAS BDTV 72054BDTV CP HAAT 512.0 m, ATV ERP 21.5 kW POPULATION AREA (sq km)

	POPULATION	ARLA (SQ KIII)
within Noise Limited Cont	our 5463855	40374.4
not affected by terrain l	osses 5457981	39735.4
lost to NTSC IX	0	0.0
lost to additional IX by	ATV 14914	100.5
lost to ATV IX only	14914	100.5
lost to all IX	14914	100.5

Potential Interferring Stations Included in above Scenario 1

9A TX TEMPLE BLCDT 20021010AAB LIC 8A TX DALLAS BDTV 72054BDTV CP

After Analysis

Results for: 8A TX DALLAS BDTV 72054BDTV CP

HAAT 512.0 m, ATV ERP 21.5 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5463855	40374.4
not affected by terrain losses	5457981	39735.4
lost to NTSC IX	0	0.0
lost to additional IX by ATV	15071	108.5
lost to ATV IX only	15071	108.5
lost to all IX	15071	108.5
New interference	0.00	

Potential Interferring Stations Included in above Scenario 1

9A	TX	TEMPLE	BLCDT	20021010AAB	LIC
8A	TX	DALLAS	BDTV	72054BDTV	CP
8A	TX	FREDERICKSBURG	OTHER	RMF2499	USR

Analysis of Interference to Affected Station 4

Analysis of current record

Channel Call City/State Application Ref. No. 8 KUHT HOUSTON TX BDTV -69269BDTV

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	on Ref. No.
8	KIII	CORPUS CHRISTI TX	296.0	CP	BPCDT	-20040107AMR
8	WFAA-TV	DALLAS TX	363.2	CP	BDTV	-72054BDTV
8	KCWX	FREDERICKSBURG TX	306.8	USR	OTHER	-RMF2499
9	KTRE	LUFKIN TX	215.5	CP MOD	BMPCDT	-20000501ADE
Proposal causes no interference						

Analysis of Interference to Affected Station 5

Analysis of current record

Channel Call City/State Application Ref. No. 8 KGNS-TV LAREDO TX BPCDT -19991026ABK

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Applicat	ion Ref. No.
8	KIII	CORPUS CHRISTI TX	203.1	CP	BPCDT	-20040107AMR
8	KCWX	FREDERICKSBURG TX	292.5	USR	OTHER	-RMF2499
9	KLRN	SAN ANTONIO TX	224.0	LIC	BLEDT	-20030430ABV
Prop	osal ca	uses no interference				

Analysis of Interference to Affected Station 6

Analysis of current record

Channel Call City/State Application Ref. No.

9 KLRN SAN ANTONIO TX BLEDT -20030430ABV

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	on Ref. No.
8	KIII	CORPUS CHRISTI TX	199.6	CP	BPCDT	-20040107AMR
8	KCWX	FREDERICKSBURG TX	93.3	USR	OTHER	-RMF2499
8	KGNS-TV	LAREDO TX	224.0	CP	BPCDT	-19991026ABK
9	KFWD	FORT WORTH TX	385.8	LIC	BLCDT	-20020509AAQ
9	KTRE	LUFKIN TX	412.5	CP MOD	BMPCDT	-20000501ADE
9	KCEN-TV	TEMPLE TX	242.1	LIC	BLCDT	-20021010AAB
10	KZTV	CORPUS CHRISTI TX	185.7	CP	BDTV	-33079BDTV

Total scenarios = 1

Result key: 3

Scenario 1 Affected station 6

Before Analysis

	CH8_Modified_results.txt					
Results for: 9A TX SAN ANT HAAT 259.0 m, ATV ERP		EDT 20030430	ABV LIC			
within Noise Limited Con not affected by terrain lost to NTSC IX	POPULATIO tour 1813415 losses 1794309	N AREA (sq km) 23230.4 22167.2 0.0				
lost to additional IX by lost to ATV IX only lost to all IX	ATV 1 1 1	8.0 8.0 8.0				
Potential Interferring Sta	tions Included i	n above Scenario	1			
9A TX TEMPLE 9A TX SAN ANTONIO	BLCDT 20021 BLEDT 20030	010AAB LIC 430ABV LIC				
After Analysis						
Results for: 9A TX SAN ANT HAAT 259.0 m, ATV ERP		EDT 20030430	ABV LIC			
within Noise Limited Con not affected by terrain lost to NTSC IX	tour 1813415 losses 1794309	AREA (sq km) 23230.4 22167.2 0.0				
lost to additional IX by lost to ATV IX only lost to all IX New interference	2623 2623 2623 0.15	387.7 387.7 387.7				
Potential Interferring Sta	tions Included i	n above Scenario	1			
9A TX TEMPLE 9A TX SAN ANTONIO 8A TX FREDERICKSBURG						
The following station failed the de minimis interference criteria. 8D TX FREDERICKSBURG OTHER RMF2499 ERP 39.67 kW HAAT 470.9 m RCAMSL 913.0 m Antenna CDB 0000000001148						
Due to interference to the following station and scenario: 1 9D TX SAN ANTONIO BLEDT 20030430ABV ERP 8.30 kW HAAT 259.0 m RCAMSL 430.0 m Antenna CDB 0000000074347						
Percent new DTV interferen Percent new DTV interferen						
#######################################						
Analysis of Interferen	ce to Affected S	tation 7				
Analysis of current record Channel Call 9 KCEN-TV TEMPL	City/State E TX	Application Res	E. No. 20021010AAB			

Page 6

## CH8\_Modified\_results.txt Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	on Ref. No.
8	WFAA-TV	DALLAS TX	147.6	CP	BDTV	-72054BDTV
8	KCWX	FREDERICKSBURG TX	183.2	USR	OTHER	-RMF2499
9	KFWD	FORT WORTH TX	148.1	LIC	BLCDT	-20020509AAQ
9	KTRE	LUFKIN TX	230.3	CP MOD	BMPCDT	-20000501ADE
9	KLRN	SAN ANTONIO TX	242.1	LIC	BLEDT	-20030430ABV
10	KWTX-TV	WACO TX	10.6	CP	BDTV	-35903BDTV
Proposal causes no interference						

# EXHIBIT E-7 HIGH BAND VHF ANTENNA INFORMATION FOR REPRESENTATIVES OF HIGH GAIN CONSUMER ANTENNAS KCWX-DT, FREDERICKSBURG, TEXAS CH8 39.669 KW DA 413 METERS HAAT JUNE 2007

<u>Manufacturer</u>	<u>Model</u>	High-Band VHF Antenna Gain (dBd)	Front-to-Back Ratio (dB)
Channel Master	3671	11 (Ch 7)	18 (Ch 7)
		11 (Ch 9)	18 (Ch 9)
Channel Master	3678	10.5 (Ch 7)	17 (Ch 7)
		9.6 (Ch 9)	15 (Ch 9)
Winegard	HD4053P	9.6 (Ch 7)	18 (Ch 7)
		11.1 (Ch 9)	+20 (Ch 9)
Winegard	YA1713	9.1 (Ch 7)	10.5 (Ch 7)
		10 (Ch 9)	18 (Ch 9)

## **CERTIFICATE OF SERVICE**

I, Roberta Muscarella, hereby certify that on June 12, 2007, I served a copy of the foregoing Further Comments by first class mail, postage prepaid on the following:

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Licensee of Channel 7, KTBC-DT

/s/ Roberta Muscarella